

Buddhika Bellana

York University, Glendon Campus
2275 Bayview Avenue, Toronto, ON M4N 3M6, CAN
Email: bbellana@yorku.ca
Website: www.bellanalab.com

PROFESSIONAL APPOINTMENTS

- | | |
|----------------|--|
| 2021 – Present | Assistant Professor, Department of Psychology
Glendon College, York University (Toronto, CAN) |
| 2022 – Present | Adjunct Scientist, Rotman Research Institute
Baycrest (Toronto, CAN) |
| 2020 – 2021 | Postdoctoral Fellow, Department of Psychology
University of Toronto (Toronto, CAN)
Co-advisor: Dr. Katherine Duncan |
| 2018 – 2021 | Postdoctoral Fellow, Department of Psychological & Brain Sciences
Johns Hopkins University (Baltimore, USA)
Advisors: Drs. Janice Chen and Christopher Honey |

EDUCATION

- | | |
|------|--|
| 2018 | Ph.D., Department of Psychology
University of Toronto
Advisors: Drs. Cheryl Grady and Morris Moscovitch <ul style="list-style-type: none">▪ <i>Thesis:</i> Activity in the left angular gyrus tracks recollection and prior knowledge |
| 2013 | M.A., Department of Psychology
University of Toronto
Advisors: Drs. Cheryl Grady and Morris Moscovitch <ul style="list-style-type: none">▪ <i>Thesis:</i> Domain-generalty of parietal attentional processes and their implications for old age |
| 2012 | Sp. Hons. B.A., Department of Psychology
York University, Glendon College
Advisors: Drs. Guy B. Proulx and Larry Leach <ul style="list-style-type: none">▪ <i>Thesis:</i> An Analysis of the Kaplan-Baycrest Neurocognitive Assessment in Dementia and Normal Ageing |

HONOURS & AWARDS

Grants

- | | |
|-------------|--|
| 2022 – 2027 | Discovery Grant
Natural Sciences and Engineering Research Council |
|-------------|--|

National (CAN): \$130, 000

2022 Discovery Grant – Early Career Researcher Supplement
Natural Sciences and Engineering Research Council
National (CAN): \$12, 500

Fellowships

2020 – 2022 Postdoctoral fellowship
Natural Sciences and Engineering Research Council
National (CAN): \$90, 000

2017 – 2018 Ontario Graduate Scholarship
University of Toronto
Provincial (CAN): \$15, 000

2016 – 2017 J. Davidson Ketchum Graduate Scholarship in Psychology
University of Toronto
Institutional (CAN): \$10, 740

2016 – 2017 University of Toronto Fellowship
University of Toronto
Institutional (CAN): \$10, 000

2013 – 2016 Post-graduate Scholarship
Natural Sciences and Engineering Research Council
National (CAN): \$63, 000

2012 – 2013 Alexander Graham Bell Scholarship
Natural Sciences and Engineering Research Council
National (CAN): \$17, 500

Awards

2021 Cermak-Corkin Postdoctoral Award
Memory Disorders Research Society (MDRS)
International: \$0

2018 Collaborative Research Award
Johns Hopkins University
Institutional (US): \$850

2015, 2016, 2017 Men's Service Group Studentship
Rotman Research Institute / Baycrest
Institutional (CAN): \$9, 174

2015, 2016 School of Graduate Studies Conference Grant
University of Toronto
Institutional (CAN): \$2, 276

2014, 2015, 2016 Jack & Rita Catherall Fund

Rotman Research Institute / Baycrest
Institutional (CAN): \$1, 415

2016 Bartlett Award for Best Data Blitz Presentation
Spring Meeting of the Toronto Area Memory Group

2015 Faculty of Arts and Sciences Travel Grant
University of Toronto
Institutional (CAN): \$775

2009, 2010, 2011 Continuing Student Scholarship
York University
Institutional (CAN): \$1, 000

PEER-REVIEWED PUBLICATIONS

Bellana, B., Mahabal, A., & Honey, C.J. (2022). Narrative thinking lingers in spontaneous thought. *Nature Communications*. 13(1), 4585.

Romero, K., Ladyka-Wojc, N., Heir, A., Bellana, B., Leach, L., & Proulx, G.B. (2022). The Influence of Cerebrovascular Pathology on Cluster Analysis of Neuropsychological Scores in Patients With Mild Cognitive Impairment. *Archives of Clinical Neuropsychology*.

Bellana, B., Mansour, R., Ladyka-Wojc, N., Grady, C.L. & Moscovitch, M. (2021). The influence of prior knowledge on the formation of detailed and durable memories. *Journal of Memory and Language*. 121, 104264.

Wei, H.T., Francois-Nienaber, A., Deschampes, T., Bellana, B., Hebscher, M., Sivaratnam, G., Bagherzadeh, M., & Meltzer, J. (2021). Sensitivity of amplitude and phase based MEG measures of interhemispheric connectivity during unilateral finger movements. *Neuroimage*. 242, 118457

Lee, H., Bellana, B., & Chen, J. (2020). What can narratives tell us about the neural bases of human memory? *Current Opinion in Behavioral Sciences*. 32, 111-119.

Ramanan, S. & Bellana, B. (2019, commentary). A domain general role for the angular gyrus in retrieving internal representations of the external world. *The Journal of Neuroscience*, 39(16), 2978-2980.

Brunec, I.K.*, Bellana, B.*, Ozubko, J.D., Man, V., Robin, J., Liu, Z-X., Grady, C.L., Rosenbaum, R.S., Winocur, G., Barense, M.D. & Moscovitch, M. (2018). Multiple scales of representation along the hippocampal anteroposterior axis in humans. *Current Biology*, 28(13), 2129-2135.e6
*Equal contributions

Anderson, J.A.E.*, Chung-Fat-Yim, A.*, Bellana, B., Luk, G. & Bialystok, E. (2018). Language and cognitive control networks in bilinguals and monolinguals. *Neuropsychologia*, 117, 351-363.
*Equal contributions

Bellana, B.*, Liu, Z-X.*, Diamond, N., Grady, C.L. & Moscovitch, M. (2017). Similarities and differences in the default mode network across rest, retrieval and future imagining. *Human Brain Mapping*, 38(3): 1155-1171. *Equal contributions

Anderson, J.A.E., Sarraf, S., Amer, T., Bellana, B., Man, V., Campbell, K.L., Hasher, L. & Grady, C.L. (2017). Task-linked diurnal brain network reorganization in older adults: A graph theoretical approach. *Journal of Cognitive Neuroscience*, 29(3), 560-572.

Bellana, B., Liu, Z., Anderson, J.A.E., Moscovitch, M. & Grady, C.L. (2016). Laterality effects in functional connectivity of the angular gyrus during rest and episodic retrieval. *Neuropsychologia*, 80(8): 24-34.

Greenberg, A., Bellana, B. & Bialystok, E. (2013). Perspective-taking ability in bilingual children: Extending advantages in executive control to spatial reasoning. *Cognitive Development*, 28(1): 41-50.

MANUSCRIPTS UNDER REVIEW & IN PREPARATION

Honey, C., Mahabal, A., Bellana, B. (*under review*). Psychological Momentum. Invited submission Current Directions in Psychological Science.

Bouffard, N., Golestani, A., Brunec, I. K., Bellana, B., Barense, M. D., Moscovitch, M. (*under review*). Single voxel autocorrelation uncovers gradients of temporal dynamics in the hippocampus and entorhinal cortex during rest and navigation.

- *bioRxiv*: <https://www.biorxiv.org/content/10.1101/2021.07.28.454036v1>

Bellana, B., Ladyka-Wojcik, N., Lahan, S., Moscovitch, M. & Grady, C.L. (*under review*). Activity in the left angular tracks both recollection and prior knowledge during recognition.

- *bioRxiv*: <https://www.biorxiv.org/content/10.1101/561910v1>

INVITED TALKS

Bellana, B. (2023). Persistence in human cognition: Why stories linger in our spontaneous thoughts. *Newcastle University Bioscience Unit, UK*. May 2023. *Event will be held virtually

Bellana, B. (2022). Narrative thinking lingers in spontaneous thought. *Department of Psychology at Ryerson University*. Mar 2022. *Event was held virtually

Bellana, B. (2022). Stories, deep processing and spontaneous thought. *Innovators in Cognitive Neuroscience*. Feb 2022. *Event was held virtually

Bellana, B. (2021). Narrative thinking lingers in spontaneous thought. *Annual Meeting of the Memory Disorders Research Society*. Oct 2021. *Event was held virtually

Bellana, B. (2021). A lasting influence of stories on spontaneous thought. *Department of Psychology at Columbia University*.
New York, NY, USA, Mar 2021. *Event was held virtually

Bellana, B. (2021). A lasting influence of stories on spontaneous thought. *Department of Cognitive Science at Carleton University*.
Kingston, ON, CAN, Mar 2021. *Event was held virtually

Bellana, B. (2021). Les narratifs comme fenêtre sur la mémoire et la création du sens. *Department of Psychology at York University, Glendon Campus*.
Toronto, ON, CAN, Feb 2021. *Event was held virtually

Bellana, B. (2020). A lasting influence of stories on spontaneous thought. *Department of Psychological and Brain Sciences at Dartmouth College*.
Hanover, NH, USA, Oct 2020. *Event was held virtually

Bellana, B. (2018). Prior knowledge, recollection and the angular gyrus. *Ebbinghaus Empire Seminar at the University of Toronto*.
Toronto, ON, CAN, Sep 2018.

Bellana, B. (2018). The role of the angular gyrus in episodic memory. *Rotman Research Institute Rounds*.
Toronto, ON, CAN, March 2018.

Bellana, B. (2017). The role of the angular gyrus in episodic memory. *Department of Psychological and Brain Sciences at Johns Hopkins University*.
Baltimore, MD, USA, Nov 2017.

CONTRIBUTED TALKS

Bellana, B. (2020). A persistent influence of narrative transportation on subsequent thought. *Context and Episodic Memory Symposium 2020*.
Philadelphia, PA, USA, Aug 2020. *Event was held virtually

Bellana, B. (2019). A narrative mode of cognition. *Princeton Meeting for Curious Minds 2019*.
Princeton, NJ, USA, Aug 2019.

Bellana, B. (2019). Dynamics of predictability (and value) in narratives. *Princeton Meeting for Curious Minds 2019*.
Princeton, NJ, USA, Aug 2019.

Bellana, B. (2018). The role of prior knowledge in recollection. *Spring Meeting of the Toronto Area Memory Group*.
Toronto, ON, CAN, May 2018.

Bellana, B. (2018). Angular gyrus simultaneously tracks recollection strength and task-irrelevant prior knowledge. *International Conference on Learning and Memory*.
Huntington Beach, CA, USA, April 2018.

Bellana, B. (2016). Resting state connectivity predicts remote memory for naturalistic film clip stimuli. *Spring Meeting of the Toronto Area Memory Group*. Toronto, ON, CAN, May 2016.

CONFERENCE ABSTRACTS & POSTERS

Li, X., Bellana, B., Born, S., Hu, A., & Chen, J. (2022) The role of agency in memory for narratives. *Conference on Cognitive and Computational Neuroscience 2022*. Philadelphia, PA, USA, Aug 2021.

Li, X., Bellana, B., Born, S., Hu, A., & Chen, J. (2021) The role of agency in memory for narratives: A choose-your-own-adventure paradigm. *Context and Episodic Memory Symposium 2021*. Philadelphia, PA, USA, Aug 2021.

Born, S., Bellana, B., & Chen, J. (2021) Written description length as an index for context dependence in naturalistic movies. *Context and Episodic Memory Symposium 2021*. Philadelphia, PA, USA, Aug 2021.

Bellana, B. & Honey, C. J. (2021) Deep processing and the mental persistence of stories. *Annual Meeting of the Cognitive Neuroscience Society 2021*. Mar 2021. *Event will be held virtually

Bellana, B. & Honey, C. J. (2020) A persistent influence of narrative transportation on unconstrained thought. *Annual Meeting of the Cognitive Neuroscience Society 2020*. Boston, MA, USA, Mar 2020. *Event was held virtually

Bellana, B., Lee, H., Zuo, Z., & Chen, J. (2019) Measuring behavioural and neural responses to fluctuations in real-world predictability. *Annual Meeting of the Society for Neuroscience 2019*. Chicago, IL, USA, Oct 2019.

Bellana, B., Lee, H., Zuo, Z., & Chen, J. (2019) Measuring behavioural and neural responses to fluctuations in real-world predictability. *Conference on Cognitive and Computational Neuroscience 2019*. Berlin, DEU, Sep 2019.

Golestani, A., Bellana, B., Brunec, I.K. & Moscovitch, M. (2018) Investigating autocorrelation pattern in the human hippocampus using resting-state fMRI. *Sixth Biennial Conference on Resting State and Brain Connectivity – 2018*. Montreal, CAN, Sep 2018.

Brunec, I.K.*, Bellana, B.*, Ozubko, J. D., Barense, M.D. & Moscovitch, M. (2018) Spatiotemporal scaling along the hippocampal long axis. *2018 Grid Cell Meeting*. London, UK, May 2018. * Equal contributions

Brunec, I.K.*, Bellana, B.*, Barense, M.D. & Moscovitch, M. (2018). Hippocampal dynamics change across the lifespan. *International Conference on Learning and Memory*. Huntington Beach, CA, USA, April 2018. * Equal contributions

- Bellana, B., Grady, C.L. & Moscovitch, M. (2017) Angular gyrus simultaneously tracks recollection strength and task-irrelevant prior knowledge. *Annual Meeting of the Memory Disorders Research Society*.
Chicago, IL, USA, September 2017.
- Brunec, I.K.* , Bellana, B.*, Ozubko, J.D., Barense, M.D. & Moscovitch, M. (2017). Distinct patterns of inter-voxel dynamics along the hippocampal longitudinal axis. *Annual Meeting of the Organization for Human Brain Mapping 2017*.
Vancouver, BC, CAN, June 2017. * Equal contributions
- Bellana, B., Grady, C.L. & Moscovitch, M. (2017) Effect of prior knowledge and encoding duration on recognition memory for faces. *27th Annual Rotman-Baycrest Neuroscience Conference*.
Toronto, ON, CAN, March 2017.
- Bellana, B., Amer, T., Sekeres, M., Moscovitch, M. & Grady, C.L. (2016) Whole-brain connectivity during post-encoding rest predicts immediate and delayed memory retrieval for extended naturalistic film clips. *International Conference on Memory*.
Budapest, HUN, July 2016.
- Bellana, B.*, Liu, Z.* , Diamond, N., Grady, C.L., Levine, B. & Moscovitch, M. (2015).
Characterizing the default mode network across rest, retrieval and future imagining. *Annual Meeting of the Organization for Human Brain Mapping 2015*.
Honolulu, HI, USA, June 2015. * Equal contributions
- Bellana, B.*, Liu, Z.* , Diamond, N., Grady, C.L., Levine, B. & Moscovitch, M. (2015). Similarities and differences in the DMN across rest, retrieval and future imagining. *25th Annual Rotman Baycrest Neuroscience Conference*.
Toronto, ON, CAN, March 2015. * Equal contributions
- Chung-Fat-Yim, A., Berkes, M., Mesite, L., Bellana, B., Luk, G. & Bialystok, E. (2015). Structural and functional differences between monolingual and bilingual young adults. *Workshop on Bilingualism and Executive Function*.
New York City, NY, USA, May 2015.
- Chung-Fat-Yim, A., Mesite, L., Bellana, B., Luk, G. & Bialystok, E. (2015). White matter differences between monolingual and bilingual young adults. *22nd Annual Meeting of the Cognitive Neuroscience Society*.
San Francisco, CA, USA, March 2015.
- Bellana, B., Liu, Z., Anderson, J. A. E., Moscovitch, M. & Grady, C. L. (2014). Functional connectivity of the angular gyrus during rest and recall: Laterality effects in the recollection network. *Annual Meeting of the Society for Neuroscience 2014*.
Washington, DC, USA, November 2014.
- Bellana, B., Liu, Z., Anderson, J. A. E., Moscovitch, M. & Grady, C. L. (2014). Left to recollect? Laterality differences in whole-brain functional connectivity of the angular gyrus during rest and recall. *24th Annual Canadian Society for Brain, Behaviour and Cognitive Science*.
Toronto, ON, CAN, July 2014.

Bellana, B., Anderson, J. A. E., Moscovitch, M. & Grady, C. L. (2014). A PLS approach to laterality differences in resting whole-brain functional connectivity of the angular gyrus. Poster *24th Annual Rotman-Baycrest Neuroscience Conference*. Toronto, ON, CAN, March 2014.

Bellana, B., Grady, C. L. & Moscovitch, M. (2013). The effect of age on attentional processes across memory and perception: An extension of the Attention-to-Memory hypothesis. *2013 Annual Meeting of the Psychonomic Society*. Toronto, ON, CAN, November 2013.

Bellana, B., Leach, L. & Proulx, G. B. (2012). An Analysis of the Kaplan-Baycrest Neurocognitive Assessment in Dementia and Normal Ageing. *73rd Annual Convention of the Canadian Psychological Association*. Halifax, NS, CAN, June 2012.

PROFESSIONAL ACTIVITIES & AFFILIATIONS

Ad-hoc Reviewer:

- Cerebral Cortex
- eLife
- Emotion
- European Journal of Neuroscience
- Hippocampus
- Human Brain Mapping
- Journal of Exp. Psychology: General
- Journal of Memory and Language
- Journal of Neuroscience
- Learning & Memory
- Nature Communications
- Nature Neuroscience
- Neuropsychologia
- Neurobiology of Learning and Memory
- PloS Biology

Memberships:

- Cognitive Neuroscience Society
- Society for Neuroscience
- Society for Experimental and Cognitive Psychology (APA: Division 3)
- Society for the Psychology of Aesthetics, Creativity and Arts (APA: Division 10)
- Society for the Teaching of Psychology (APA: Division 2)

Service:

2022 – Present	Curriculum Committee Member Glendon Campus York University
2020	Selection Committee Member, Early Career Colloquium Series Department of Psychological & Brain Sciences Johns Hopkins University
2020	Committee Member, Diversity, Equity and Outreach Working Group Department of Psychological & Brain Sciences Johns Hopkins University

2014 – 2017	Steering Committee Member, Research Training Centre Rotman Research Institute Baycrest Centre
2013 – 2015	Coordinator, Research Graduate Led Academic Seminar Series Department of Psychology University of Toronto

TEACHING & MENTORSHIP

Primary Instruction:

Fall 2022	<p>Introduction to Experimental Psychology (GL-PSYC 2520) Department of Psychology York University, Glendon College (40-50 students)</p> <ul style="list-style-type: none"> ▪ <i>Description:</i> An introductory course on research methods in psychology, involving both theoretical and hands-on learning opportunities ▪ <i>Audience:</i> Lower-level undergraduate students, majoring in psychology
Winter 2021, 2022	<p>Human Neuropsychology (GL-PSYC 4530) Department of Psychology York University, Glendon College (21-36 students)</p> <ul style="list-style-type: none"> ▪ <i>Description:</i> An upper level course on the human mind and brain, through cognitive psychology, neuroimaging and patient studies ▪ <i>Audience:</i> Upper-level undergraduate students, with background in psychology
Intersession 2020	<p>The Cognitive Neuroscience of Stories (AS.200.135.22; syllabus) Department of Psychological & Brain Sciences Johns Hopkins University (16 students)</p> <ul style="list-style-type: none"> ▪ <i>Description:</i> An introductory course on the use of stories as a tool to gain insight into the organization of the human mind and brain. ▪ <i>Audience:</i> Lower-level undergraduate students, no background required

Joint-Instruction & Course Development:

Summer 2017, 2018	<p>Baycrest Presents: Understanding Your Brain The Life Institute Ryerson University (30 – 60 students)</p> <ul style="list-style-type: none"> ▪ <i>Description:</i> An introductory course on cognitive neuroscience taught by graduate students affiliated with Baycrest Hospital. ▪ <i>Audience:</i> Seniors from the community, no background required ▪ <i>Involvement:</i> Led 2-hour lectures on the following topics – “Introduction to the brain and functional neuroanatomy”, “How science works in practice” and “Science literacy”
Summer 2017	<p>North-South Initiative: Introduction to Brain Health</p>

Department of Psychology
York University, Glendon College (20 students)

- *Description:* An introductory course on cognitive neuroscience with a focus on dementia and age-related brain pathology
- *Audience:* Francophone healthcare providers working in dementia care
- *Involvement:* Created slides for 3-hour lectures on the following topics – “Introduction to the brain and functional neuroanatomy”, “Human memory system in health and disease” and “A primer on brain networks”.

Teaching Assistantships:

University of Toronto (Fall 2012 – Summer 2018)

- **Statistics I** (PSY 201; 6 semesters completed)
- **Statistics II** (PSY 202, 6 semesters completed)
 - * *Teaching-Intensive Teaching Assistantship* in Winter 2016. Gave weekly 2-hour lectures during tutorials to recap course material.
- **Introduction to Cognitive Psychology** (PSY 270; 1 semester completed)
- **Sensation & Perception** (PSY 280; 1 semester completed)
- **Higher Cognitive Processes** (PSY 370; 1 semester completed)
- **Thinking and Reasoning** (PSY 371; 1 semester completed)

Selected Guest Lectures:

Johns Hopkins University

- Schemas and prior knowledge in learning (*Course:* How Does the Brain Predict the Future?, Fall 2019)
- What makes a memory last? (*Course:* Human Memory Psychology, Winter 2018)

Baycrest Hospital

- Introduction to the brain (*Course:* NeuroBrite Initiative, Summer 2018)
 - * a Natural Science and Engineering Research Council (NSERC)-funded program, promoting science, technology, engineering, and mathematics (STEM) to high-school students and teachers

University of Toronto

- Episodic memory beyond of the temporal lobes (*Course:* Human Memory, Fall 2014, 2016)
- Introduction to hypothesis testing (*Course:* Statistics I, Fall 2014)
- Introduction to the t-statistic (*Course:* Statistics I, Fall 2014)
- Effective studying: Insights from memory research (*Course:* Introduction to Cognitive Psychology, Fall 2012)

Undergraduate Mentorship:

Undergraduate Honours Theses

- Olivia Arski (2018 – 2019): MA student at the University of Toronto
- Rania Mansour (2016 – 2017): Completed MA at University of Pennsylvania

Research Assistantships

- Christina Fernando (2022 – Present): BA student at York University

Languages: English (fluent) and French (intermediate)

REFERENCES

Morris Moscovitch, Ph.D.
Professor and PhD Advisor
Department of Psychology
University of Toronto, Toronto CAN
momos@psych.utoronto.ca

Cheryl L. Grady, Ph.D.
Senior Scientist and PhD Advisor
Rotman Research Institute
Baycrest Centre, Toronto CAN
cgrady@research.baycrest.org

Janice Chen, Ph.D.
Assistant Professor and Postdoctoral Advisor
Department of Psychological & Brain Sciences
Johns Hopkins University, Baltimore MD USA
janice@jhu.edu

Christopher J. Honey, Ph.D.
Assistant Professor and Postdoctoral Advisor
Department of Psychological & Brain Sciences
Johns Hopkins University, Baltimore MD USA
chris.honey@jhu.edu

Guy B. Proulx, Ph.D.
Professor and Undergraduate Advisor
Department of Psychology
Glendon College, York University, Toronto CAN
gproulx@glendon.yorku.ca